PROJECT NUMBER : 6503
PROJECT TITLE : Chemical Analysis
PROJECT LEADER : B. M. Handy
PERIOD COVERED : February, 1991

I. PAPER TECHNOLOGY

A. **Objective:** To determine the elemental composition of compounds for use in experimental cigarette wrapper and on papers containing these compounds. Monitor the elemental composition of cigarette papers from the marketplace.

B. **Results:** Papers containing various minerals such as eitelite, magnesite and calcite were analyzed using acid digestion with solution analysis by titration, inductively coupled plasma and atomic absorption. Choice of analytical technique is a function of constituent concentration. Papers from the CI were first qualitatively screened using XRF; when detected, calcium, magnesium, sodium and potassium were quantitated. Calcium, sodium, potassium and organic acids were determined on BOLD configuration papers to support studies on chalk type and additive levels on smoke results. Additional analyses were performed to support studies to determine the effects of variation in the sodium/potassium citrate ratios.

C. **Plans:** Continue support as needed. Formalize analytical procedures for specific fillers and coatings with a high probability of continued use in experimental models or product.

II. CAST LEAF

A. **Objective:** Determine alkaloids in burley stems and effluent from the BL Plant to support environmental studies. Determine alkaloids, phosphorus and ammonia in process liquors and cast leaf from the BL Plant to support material accountability studies.

B. **Results:** Analyses performed were restricted to those tests not performed in QA. Procedures used routinely for Cast Leaf and tobacco were found to be applicable to materials from the various sampling points for this study. Current testing is complete.

C. **Plans:** Support engineering studies as needed.

III. METHOPRENE (KABAT)

A. **Objective:** Support engineering efforts of improve the uniformity of Kabat application.

B. **Results:** Samples taken at spray nozzles from the center and sides of the spray application boom were analyzed to determine the spray composition at application start-up and during a run.

2022201738

Source: https://www.industrydocuments.ucsf.edu/docs/nzjm0000

C. Plans: Continue support as needed.

IV. CIGARETTE PAPER ANALYSIS

A. Objective: Examine a competitors test market cigarette to determine the chemical components in the paper.

B. Results: By comparison with analytical results obtained from papers of known composition removed from cigarettes, it was confirmed that this test product contained levels of acetic and malic acid suggesting additive use. There were no unusual findings based on the filler analysis; chlorides, nitrate nitrogen, PG/GLY and soluble ammonia, alkaloids and sugars were found at characteristic levels.

C. Plans: Blend composition analysis is being performed.

2022201739

Source: https://www.industrydocuments.ucsf.edu/docs/nzjm0000